AL.2.1110-264

CRD No. 273 **65/February/88**

CANADIANA

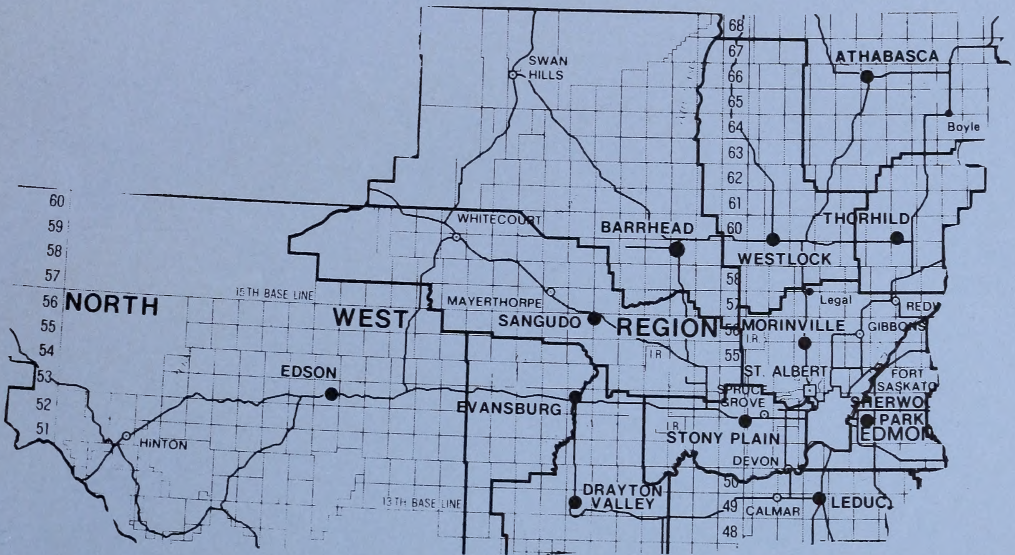
AUG - 8 1990

A CONSENSUS OF
Costs and Returns

WHEAT, FIELD PEAS, BARLEY, OATS, CANOLA (STUBBLE), BARLEY (UNDERSEEDED), CLOVER, PLOWDOWN, and CANOLA ON FALLOW

on a 1000 acre farm
in the

MORINVILLE, STONY PLAIN AND BARRHEAD DISTRICTS



NORTHWEST ALBERTA

Alberta
AGRICULTURE
Economic Services Division
Production and Resource Economics Branch

A CONSENSUS OF COSTS AND RETURNS
FOR
WHEAT, PEAS, BARLEY, OATS, CANOLA (STUBBLE), BARLEY (UNDERSEEDED), CLOVER, PLOWDOWN, AND CANOLA ON FALLOW

IN THE
MORINVILLE, STONY PLAIN AND BARRHEAD DISTRICTS

BY

BILL BAIER

Assistant Regional Economist, Westlock

December 1987

The author would like to thank the farmers, Alex Allan, Eugene Boyko, Gordon Frank, Herb Kloeck, Joe St. Denis and Rene Victoor who provided the basic data and John Hladky, D.A. at Morinville and Ken Lopetinsky, Forage & Specialty Crops Specialist, Barrhead for their assistance in arranging this study and participation in gathering the data. Special thanks to Annette Kennedy for organizing and typing the manuscript.

TABLE OF CONTENTS

	Page
The Concensus Research Data Technique	1A
Introduction	1
Objectives	1
Source and Method of Data Collection	2
Definitions	2
Assumptions Specific to This Study	3, 4

LIST OF TABLES

Table 1	Total Farm Summary	5
Table 2	Machinery Complement Set	6
Table 3	Operations Table: Wheat	7
Table 4	Cost of Production: Wheat	8
Table 5	Return over Cash Costs at Various Yields and Price (Wheat)	9
Table 6	Operations Table: Peas	10
Table 7	Cost of Production: Peas	11
Table 8	Return over Cash Costs at Various Yields and Price (Peas)	12
Table 9	Operations Table: Barley	13
Table 10	Cost of Production: Barley	14
Table 11	Return over Cash Costs at Various Yields and Price (Barley)	15
Table 12	Operations Table: Oats	16
Table 13	Cost of Production: Oats	17
Table 14	Return over Cash Costs at Various Yields and Price (Oats)	18
Table 15	Operations Table: Canola on Stubble	19
Table 16	Cost of Production: Canola on Stubble	20
Table 17	Return over Cash Costs at Various Yields and Price (Canola Stubble)	21

Digitized by the Internet Archive
in 2015

https://archive.org/details/consensusofcosts00baie

Table 18 Operations Table: Barley Underseeded to Clover 22

Table 19 Cost of Production: Barley Underseeded to Clover 23

Table 20 Return over Cash Costs at Various Yields and Price (Barley Underseeded to Clover) 24

Table 21 Operations Table: Clover 25

Table 22 Cost of Production: Clover 26

Table 23 Return over Cash Costs at Various Yields and Prices (Clover) 27

Table 24 Operations Table: Clover Plowdown 28

Table 25 Cost of Production: Clover Plowdown 29

Table 26 Operations Table: Canola on Fallow 30

Table 27 Cost of Production: Canola on Fallow 31

Table 28 Return over Cash Costs at Various Yields and Prices (Canola on Fallow) 32

THE CONSENSUS RESEARCH DATA (C.R.D.) TECHNIQUE[1]

The C.R.D. or data sheet approach relies on group participation of interested farmers to arrive at a consensus of opinion on costs and returns. This consensus relates not area averages, but rather typical figures for the group of producers who provided the data. This distinction is important since different production practices carried out in small pockets within a larger area are often not truly reflected in average figures, (i.e. spring plowing in an area where discing is more common). Conversely, if within a given area there is a pocket of highly specialized crop density where certain production practices are different, then the specialized costs of that practice can bias the overall area average costs and render them less useful. For these and other reasons, consensus research data must be interpreted with the above conditions in mind.

Consensus figures are based on current investment and operational costs and therefore reflects the cost and return situation which would have to be contemplated by new farm operators. These figures are associated with the management and cultural expertise of the participants within a particular geographic area. While care should be exercised when applying C.R.D. data to individual cases, the greatest advantage of the technique is that it can be specific (i.e. to the rotation, cultural practice, breed or ration), timely, locally oriented and based on the cumulative experience of farmers operating in the area.

---

[1] For more information on the C.R.D. technique, contact your Regional Economist, District Agriculturist, or the Production Economics Branch of the Alberta Department of Agriculture.

THE CONSENSUS RESEARCH DATA (C.R.D.) TECHNIQUE[1]

The C.R.D., or data sheet approach relies on group participation of interested farmers to arrive at a consensus of opinion on costs and returns. This consensus relates not area averages, but rather typical figures for the group of producers who provided the data. This distinction is important since different production practices carried out in small pockets within a larger area are often not truly reflected in average figures, (i.e. spring planting in an area where discing is more common). Conversely, if within a given area there is a pocket of highly specialized crop density where certain production practices are different, then the specialized costs of that practice can bias the overall area average costs and results (and vice versa). For these and other reasons, consensus research data must be interpreted with the above conditions in mind.

Consensus figures are based on current investment and operational costs and returns typical to the crop and region involved which would have to be contemplated by new farm operators. These figures are associated with the management and technical capacities of the participants within a particular geographic area. Extra care should be exercised when applying C.R.D. data to individual farms. The principal advantage of the technique is that it can be specific as to the location, cultural practice, breed or variety, acreage, capital resources and based on the cumulative experience of farmers operating in the area.

---

[1] For more information on the C.R.D. technique, contact your Regional Economist, District Agriculturist, or the Production Economics Branch of the Alberta Department of Agriculture.

INTRODUCTION

Today's farming demands that cost and return information be available for all alternatives which the producer should consider when planning future production. With today's high cost of inputs and machinery investment, it is particularly necessary to have good information available when making management decisions.

This report provides an estimate of the cost and returns based on the consensus of a group of farmers in the Morinville, Stony Plain and Barrhead Districts for Wheat, Field Peas, Barley, Oats, Canola and Red Clover Seed.

OBJECTIVES

This report was prepared to provide an estimate of the cost and expected returns for production of these crops. Such information can be an important guide in decision making, but the reader should keep in mind that costs vary between producers because of differences in land, cultural and management practices. The farmer's own records are essential to determine what it actually costs to produce a crop on his own particular farm.

This report can be useful for management decisions:

1. In selecting the enterprise or crop rotation yielding the highest return;
2. In determining the amount of cash required to operate during a season;
3. In determining the amount of time expected to be spent on an enterprise;
4. For projecting the income and expense when considering new investments;
5. In determining how the income and expense should be shared in rental arrangements;
6. To compare to actual costs incurred in your farming enterprise.

SOURCE AND METHOD OF DATA COLLECTION

The information for this report was gathered from a group of farmers in the Morinville, Stony Plain, and Barrhead Districts. A day was spent with them discussing the costs involved, the complement of machinery required and the cultural practices carried out on each operation. This information was compiled and costs calculated to determine the total cost of production and the returns expected from the crops.

DEFINITIONS

Cash Costs per acre include fuel, repairs, seed, fertilizer, sprays, hired labor and cash overhead costs such as taxes, insurance and interest on operating capital. Operators comparing their cash costs to those in the C.R.D. should recognize that payments on land and equipment have not been included. Instead an interest on land and machinery investment has been charged under other costs.

Non-Cash Costs per acre include depreciation on buildings and machinery, and the value of operator's labor. While these costs are not out of pocket costs, the grain enterprise must provide sufficient revenue to cover these costs if the operator is to continue farming over a period of time.

Return over Cash Costs is used by producers to compare the profitability of various crops. These are often considered to be the decision making costs.

Contribution Margin is the return over cash costs and operator labor and is the residual left to pay for the operator's investment in land, machinery and buildings.

Gross Operating Profit is the amount left after all cash costs plus an allowance for depreciation and operator labor has been satisfied.

Interest on Investment An opportunity interest rate of 10.5% is charged against land, buildings and machinery.

Total of All Economic Costs The sum total of cash costs, non-cash costs and interest on investment.

ASSUMPTIONS SPECIFIC TO THIS STUDY

1. A 1000 acre grain farm in the Morinville, Stony Plain and Barrhead districts with black loam soil, approximately 10 miles from a grain delivery point.

2. A specific rotation of - Wheat - Field Peas - Barley - Oats - Canola - Barley - Barley - Red Clover (for seed) - Clover Plowdown - Canola (Fallow). Each of the 10 fields is 100 acres in size.

3. Machinery is based upon the above acreage with operating costs estimated from Alberta Agriculture's publication "Farm Machinery Costs", 1985.

4. All machinery and labor is supplied by the owner-operator except the late June plowdown of clover which is custom hired at $7.00/acre.

5. The following yields and prices are obtained:

Wheat	45 bu/acre @ 2.08/bu.	=	93.60/acre
Field Peas	50 bu/acre @ 3.75/bu.	=	187.50/acre
Barley	70 bu/acre @ 1.10/bu.	=	77.00/acre
Oats	100 bu/acre @ 1.10/bu.	=	110.00/acre
Canola (on stubble)	30 bu/acre @ 5.00/bu.	=	150.00/acre
Barley (underseeded)	50 bu/acre @ 1.10/bu.	=	55.00/acre
Red Clover	250 lbs/acre @ .40/lb.	=	100.00/acre
Canola (on fallow)	30 bu/acre @ 5.00/bu.	=	150.00/acre

6. Seeding rates are as follows:

Wheat	1½ bu/acre @ 5.50/lb	=	8.25/acre
Field Peas	200 lbs/acre @ .15/lb.	=	30.00/acre
Barley	1½ bu/acre @ 3.25	=	4.88/acre
Oats	2½ bu/acre @ 3.00	=	7.50/acre
Canola (on stubble)	5 lbs/acre @ .90	=	4.50/acre
Barley (underseeded)	1½ bu/acre @ 3.25		
	6 lbs clover seed @ 1.00	=	10.88/acre
Canola (on fallow)	5 lbs/acre treated @ .90 lb.	=	4.50/acre

7. Fertilization rates:

Wheat	80 N as ammonia	16.80		
	70 lbs. 8-38-15	9.10	=	25.90/acre
Field Peas	70 lbs 8-38-15	9.10		
	10 lbs 0-0-0-90	1.90	=	11.00/acre
Barley	80 N as ammonia	16.80		
	70 lbs 8-38-15	9.10	=	25.90/acre
Oats	50 N as ammonia	10.50		
	70 lbs 8-38-15	9.10	=	19.60/acre
Canola (stubble)	90 N as ammonia	18.90		
	70 lbs 8-38-15	9.10		
	10 lbs 0-0-0-90	1.90	=	29.90/acre

Barley (underseeded)	60 N as ammonia	12.60		
	70 lbs 8-38-15	9.10	=	21.70/acre
Canola (on fallow)	50 N as ammonia	10.50		
	70 lbs 8-38-15	9.10		
	10 lbs 0-0-0-90	1.90	=	21.50/acre

8. Chemical application rates:

Wheat	Blagal 790 ml/acre		=	5.50/acre
Field Peas	Edge 1kg/acre	13.00	=	
	MCPA 280ml/acre	1.00	=	
	Inoculant and sticker	2.00	=	16.00/acre
Barley	Liquid Avadex 1.4 L/ac	10.50	=	
	Sencor 70 ml/acre	5.00	=	15.50/acre
	MCPA 600 ml/acre			
Oats	Blagal 720 ml/acre		=	5.00/acre
Canola (stubble)	QR5 11kg/acre	14.50		
	Applicator rental	.75	=	15.25/acre
Barley (underseeded)	Tropotox 1.6 L/acre	11.00		
	Avadex 1.4 L/acre	10.50		
	Inoculant (clover)	1.00	=	22.50/acre
Canola (fallow)	Treflan 1L/acre		=	11.00/acre

9. All crops are insured against hail (coverage $100/acre). Premiums are $5.00/acre for cereals and $7.50/acre for canola and peas.

10. Heated air drying:

    All of the wheat, 1/2 of the barley and 1/2 of of the peas are dried; however participants felt that aeration was a very viable alternative for peas which could be combined at 19% to 20% and natural air dried to 16.5% moisture.

11. Land is valued at $500/acre.

12. Interest on land, buildings and machinery is charged at 10.5%.

13. Land taxes are $4.00/acre.

14. Operating interest is charged at 11.5%.

15. Operator labor is charged at $6.50/hour.

16. A matrix consisting of various price and yield combinations and the resulting "return over cash costs" is presented for each crop.

Table 1

TOTAL FARM SUMMARY ($ PER ACRE)

	Total Farm	Canola on Fallow	Wheat	Peas	Barley	Oats	Canola on Stubble	Barley (under-seeded)	Clover	Plowdown
Acres	1000	100	100	100	200	100	100	100	100	100
Gross Returns	100.01	150.00	93.60	187.50	77.00	110.00	150.00	55.00	100.00	.00
Cash Costs	70.59	71.75	78.81	109.02	83.78	65.24	89.86	94.16	13.03	16.49
Return over Cash Costs	29.42	78.25	14.79	78.48	-(6.78)	44.76	60.14	-(39.16)	86.97	-(16.49)
Depreciation	31.83	25.45	32.13	47.78	36.83	33.10	39.09	37.22	14.57	15.25
Labor	8.80	8.06	9.95	13.65	9.72	10.01	10.14	10.11	4.81	1.82
Gross Operating Profit	-(11.21)	44.74	-(27.29)	17.05	-(53.33)	1.65	10.91	-(86.49)	67.59	-(33.56)

Table 2

MACHINERY COMPLEMENT SET

NO.		NEW VALUE	YEARS LIFE	SALVAGE VALUE	HOURS USE/YR	OPERATE COST/HR	DEPRECIATION COST/HR	INVESTMENT COST/HR	ANNUAL DEPRECIATION	ANNUAL INTEREST
1.	Tractor 200HP	90000	10	18000	216	8.72	33.33	26.25	7200.00	5670.00
2.	Tractor 125HP	50000	15	5000	253	6.63	11.86	11.41	3000.00	2887.50
3.	Chisel Plow 30'	15000	15	1500	54	2.26	16.67	16.04	900.00	866.25
4.	Disc 30'	25000	10	2500	78	2.34	28.85	18.51	2250.00	1443.75
5.	Fd. Cult.36'/CF	18000	15	1800	84	5.93	12.86	12.38	1080.00	1039.50
6.	Hoe Drill 24'	30000	15	3000	76	18.68	23.68	22.80	1800.00	1732.50
7.	Harrow 70'	7000	15	700	42	1.74	10.00	9.63	420.00	404.25
8.	Sprayer 70'	8000	15	800	30	2.58	16.00	15.40	480.00	462.00
9.	Swather 18'	25000	10	5000	120	6.22	16.67	13.13	2000.00	1575.00
10.	Combine 50"	75000	10	15000	185	22.87	32.43	25.54	6000.00	4725.00
11.	Dryer 300 bu.	20000	15	4000	105	18.78	10.16	12.00	1066.67	1260.00
12.	Truck 3 Ton	30000	15	3000	176	12.06	10.23	9.84	1800.00	1732.50
13.	Truck 1/2 Ton	15000	5	3000	90	4.48	26.67	10.50	2400.00	945.00
14.	Auger 8"	3000	15	300	78	1.95	2.31	2.22	180.00	173.25
15.	Auger 7"	2000	15	200	125	1.84	0.96	0.92	120.00	115.50
16.	Buildings	75000	30	7500	1000	.00	2.25	4.33	2250.00	4331.25
	TOTALS	488000		71300		117.08	254.93	210.90	32946.67	29363.25

AVERAGE INVESTMENT	279650
TOTAL DEPRECIATION COST PER YEAR	32947
TOTAL INVESTMENT COST PER YEAR	29363

$$\text{ANNUAL DEPRECIATION} = \frac{\text{NEW VALUE} - \text{SALVAGE VALUE}}{\text{YEARS OF LIFE}}$$

$$\text{ANNUAL INTEREST} = \frac{\text{NEW VALUE} + \text{SALVAGE VALUE}}{2} \text{ X INTEREST RATE}$$

Table 3

OPERATIONS TABLE: WHEAT

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Disc	(1,4)	1	100	6	7	16.80	.66	3.73	2.69	.46	24.33
Cultivator	(1,5)	1	100	6	7	8.25	.88	2.77	2.32	.46	14.67
Drill	(2,6)	1	100	9	10	9.10	2.28	3.20	3.08	.65	18.31
Harrow	(2,7)	2	100	3	4	5.50	.50	1.31	1.26	.52	9.10
Sprayer	(2,8)	1	100	3	4	5.00	.28	.84	.80	.26	7.18
Swather	(9)	1	100	11	12	.00	.68	1.83	1.44	.78	4.74
Combine	(10)	1	100	19	21	.00	4.35	6.16	4.85	1.37	16.73
Dryer	(2,11)	1	100	23	25	.00	5.84	5.06	5.39	1.63	17.92
Truck	(12)	1	100	19	21	.00	2.29	1.94	1.87	1.37	7.47
Pickup	(13)	1	100	10	11	.00	0.45	2.67	1.05	0.72	4.88
Auger 8	(14)	1	100	10	11	.00	0.20	0.23	0.22	0.72	1.36
Auger 7	(15)	1	100	14	16	.00	0.26	0.13	0.13	1.04	1.56
Building	(16)	1	1	1	1	.00	0.00	2.25	4.33	0.00	6.58
TOTAL COSTS					149	44.65	18.66	32.13	29.43	9.95	134.83

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 4 COST OF PRODUCTION: WHEAT

GROSS RETURNS:	45 bushel per acre at $2.08 per bushel			93.60
*DIRECT COSTS:	Land taxes	4.00		
	82-0-0 80 lbs. N per acre	16.80		
	8-38-15 70 lbs. per acre	9.10		
	Seed 1½ bushel per acre	8.25		
	Blagal 1.1 L per acre	5.50		
	Equipment operations and maintenance	18.66		
	Interest on operating capital	8.13		
	Hail Insurance	5.00		
	Miscellaneous Overhead	3.37		
TOTAL CASH COSTS			78.81	
RETURN OVER CASH COSTS:				14.79
	Operator Labor	9.95		
CONTRIBUTION MARGIN:				4.84
	Depreciation on buildings and equipment	32.13		
TOTAL NON-CASH COSTS			42.08	
TOTAL OF CASH AND NON-CASH COSTS:			120.89	
GROSS OPERATING PROFIT:				-(27.29)
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	29.43		
			81.93	
TOTAL OF ECONOMIC COSTS:			202.82	

* a post-emergent wild oat spray may be necessary at a cost of $14.00/acre.

Table 5

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (WHEAT)

	YIELD						
	30	35	40	45	50	55	60
PRICE							
$4.50	$56.19	$78.69	$101.19	$123.69	$146.19	$168.69	$191.19
$4.25	$48.69	$69.94	$91.19	$112.44	$133.69	$154.94	$176.19
$4.00	$41.19	$61.19	$81.19	$101.19	$121.19	$141.19	$161.19
$3.75	$33.69	$52.44	$71.19	$89.94	$108.69	$127.44	$146.19
$3.50	$26.19	$43.69	$61.19	$78.69	$96.19	$113.69	$131.19
$3.25	$18.69	$34.94	$51.19	$67.44	$83.69	$99.94	$116.19
$3.00	$11.19	$26.19	$41.19	$56.19	$71.19	$86.19	$101.19
$2.75	$3.69	$17.44	$31.19	$44.94	$58.69	$72.44	$86.19
$2.50	($3.81)	$8.69	$21.19	$33.69	$46.19	$58.69	$71.19
$2.25	($11.31)	($0.06)	$11.19	$22.44	$33.69	$44.94	$56.19
$2.00	($18.81)	($8.81)	$1.19	$11.19	$21.19	$31.19	$41.19
$1.75	($26.31)	($17.56)	($8.81)	($0.06)	$8.69	$17.44	$26.19
$1.50	($35.40)	($27.90)	($20.40)	($12.90)	($5.40)	$2.10	$9.60

Table 6

OPERATIONS TABLE: PEAS

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Chisel Plow	(1,3)	1	100	6	7	.00	.66	3.00	2.54	.46	6.65
Disc	(1,4)	2	100	6	7	2.00	1.33	7.46	5.37	.91	17.07
Cultivator	(1,5)	1	100	6	7	30.00	.88	2.77	2.32	.46	36.42
Drill	(2,6)	1	100	13	15	11.00	3.29	4.62	4.45	.98	24.33
Harrow	(2,7)	2	100	3	3	13.00	.50	1.31	1.26	.39	16.47
Sprayer	(2,8)	2	100	3	3	1.00	.55	1.67	1.61	.39	5.22
Swather	(9)	1	100	29	32	7.50	1.80	4.83	3.81	2.08	20.02
Combine	(10)	1	100	33	36	.00	7.55	10.70	8.43	2.34	29.02
Dryer	(2,11)	.5	100	25	28	.00	3.18	2.75	2.93	.91	9.76
Truck	(12)	1	100	33	36	.00	3.98	3.38	3.25	2.34	12.94
Pickup	(13)	1	100	10	11	.00	.45	2.67	1.05	.72	4.88
Auger 8	(14)	1	100	10	11	.00	.20	.23	.22	.72	1.36
Auger 7	(15)	1	100	14	15	.00	.26	.13	.13	.98	1.50
Buildings	(15)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					211	64.50	24.62	47.78	41.69	13.65	192.24

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 7 COST OF PRODUCTION: FIELD PEAS

GROSS RETURNS:	50 bushel per acre at $3.75 per bushel			187.50
CASH COSTS:	Land taxes	4.00		
	8-38-15 70 lbs. per acre	9.10		
	0-0-0-90 10 lbs. per acre	1.90		
	Seed 200 lbs. per acre	30.00		
	Edge 1 kg.per acre	13.00		
	MCPA 280 ml per acre	1.00		
	Inoculation and sticker	2.00		
	Equipment operations and maintenance	24.62		
	Interest on operating capital	11.24		
	Hail Insurance	7.50		
	Miscellaneous Overhead	4.66		
TOTAL CASH COSTS			109.02	
RETURN OVER CASH COSTS:				78.48
	Operator Labor	13.65		
CONTRIBUTION MARGIN:				64.83
	Depreciation on buildings and equipment	47.78		
TOTAL NON-CASH COSTS			61.43	
TOTAL OF CASH AND NON-CASH COSTS:			170.45	
GROSS OPERATING PROFIT:				17.05
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	41.69		
			94.19	
TOTAL OF ECONOMIC COSTS:			264.64	

Table 8

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES(PEAS)

	YIELD						
	20	30	40	50	60	70	80
PRICE							
$5.00	($9.02)	$40.98	$90.98	$140.98	$190.98	$240.98	$290.98
$4.75	($14.02)	$33.48	$80.98	$128.48	$175.98	$223.48	$270.98
$4.50	($19.02)	$25.98	$70.98	$115.98	$160.98	$205.98	$250.98
$4.25	($24.02)	$18.48	$60.98	$103.48	$145.98	$188.48	$230.98
$4.00	($29.02)	$10.98	$50.98	$90.98	$130.98	$170.98	$210.98
$3.75	($34.02)	$3.48	$40.98	$78.48	$115.98	$153.48	$190.98
$3.50	($39.02)	($4.02)	$30.98	$65.98	$100.98	$135.98	$170.98
$3.25	($44.02)	($11.52)	$20.98	$53.48	$85.98	$118.48	$150.98
$3.00	($49.02)	($19.02)	$10.98	$40.98	$70.98	$100.98	$130.98
$2.75	($54.02)	($26.52)	$0.98	$28.48	$55.98	$83.48	$110.98
$2.50	($59.02)	($34.02)	($9.02)	$15.98	$40.98	$65.98	$90.98
$2.25	($64.02)	($41.52)	($19.02)	$3.48	$25.98	$48.48	$70.98

Table 9 OPERATIONS TABLE: BARLEY

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Chisel Plow	(1,3)	1	200	12	13	.00	.66	3.00	2.54	.42	6.62
Disc	(1,4)	1	200	12	13	16.80	.66	3.73	2.69	.42	24.30
Cultivator	(1,5)	2	200	12	13	4.88	1.76	5.54	4.64	.85	17.66
Drill	(2,6)	1	200	18	20	9.10	2.28	3.20	3.08	.65	18.31
Harrow	(2,7)	2	200	6	7	10.50	.50	1.31	1.26	.46	14.03
Sprayer	(2,8)	2	200	6	7	5.00	.55	1.67	1.61	.46	9.29
Swather	(9)	1	200	22	24	5.00	.68	1.83	1.44	.78	9.74
Combine	(10)	1	200	38	42	.00	4.35	6.16	4.85	1.37	16.73
Dryer	(2,11)	.5	200	38	42	.00	2.41	2.09	2.22	.68	7.41
Truck	(12)	1	200	20	22	.00	1.21	1.02	.98	.72	3.93
Pickup	(13)	1	200	35	39	.00	.78	4.67	1.84	1.27	8.56
Auger 8	(14)	1	200	19	21	.00	.19	.22	.21	.68	1.30
Auger 7	(15)	1	200	27	30	.00	.25	.13	.12	.98	1.48
Buildings	(16)	1	1	1	1	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					293	51.28	16.28	36.83	31.82	9.72	145.93

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 10 COST OF PRODUCTION: BARLEY

GROSS RETURNS:	70 bushel per acre at $1.10 per bushel			77.00
CASH COSTS:	Land taxes	4.00		
	82-0-0 80 lbs. N per acre	16.80		
	8-38-15 70 lbs. per acre	9.10		
	Seed 1½ bushel per acre	4.88		
	Avadex 1.4 L/acre	10.50		
	Sencor 70 ml/acre	3.00		
	MCPA 600 ml per acre	2.00		
	Equipment operations and maintenance	16.28		
	Interest on operating capital	8.64		
	Hail Insurance	5.00		
	Miscellaneous Overhead	3.58		
TOTAL CASH COSTS			83.78	
RETURN OVER CASH COSTS:				-(6.78)
	Operator Labor	9.72		
CONTRIBUTION MARGIN:				-(16.50)
	Depreciation on buildings and equipment	36.83		
TOTAL NON-CASH COSTS			46.55	
TOTAL OF CASH AND NON-CASH COSTS:			130.33	
GROSS OPERATING PROFIT:				-(53.33)
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	31.82		
			84.32	
TOTAL OF ECONOMIC COSTS:			214.65	

Table 11

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (BARLEY)

YIELD

PRICE	40	50	60	70	80	90	100
$3.50	$56.22	$91.22	$126.22	$161.22	$196.22	$231.22	$266.22
$3.25	$46.22	$78.72	$111.22	$143.72	$176.22	$208.72	$241.22
$3.00	$36.22	$66.22	$96.22	$126.22	$156.22	$186.22	$216.22
$2.75	$26.22	$53.72	$81.22	$108.72	$136.22	$163.72	$191.22
$2.50	$16.22	$41.22	$66.22	$91.22	$116.22	$141.22	$166.22
$2.25	$6.22	$28.72	$51.22	$73.72	$96.22	$118.72	$141.22
$2.00	($3.78)	$16.22	$36.22	$56.22	$76.22	$96.22	$116.22
$1.75	($13.78)	$3.72	$21.22	$38.72	$56.22	$73.72	$91.22
$1.50	($23.78)	($8.78)	$6.22	$21.22	$36.22	$51.22	$66.22
$1.25	($33.78)	($21.28)	($8.78)	$3.72	$16.22	$28.72	$41.22
$1.00	($43.78)	($33.78)	($23.78)	($13.78)	($3.78)	$6.22	$16.22
$0.75	($53.78)	($46.28)	($38.78)	($31.28)	($23.78)	($16.28)	($8.78)

Table 12

OPERATIONS TABLE: OATS

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Chisel Plow	(1,3)	1	100	6	7	.00	.66	3.00	2.54	.46	6.65
Disc	(1,4)	1	100	6	7	10.50	.66	3.73	2.69	.46	18.03
Cultivator	(1,5)	2	100	6	7	7.50	1.76	5.54	4.64	.91	20.35
Drill	(2,6)	1	100	9	10	9.10	2.28	3.20	3.08	.65	18.31
Harrow	(2,7)	2	100	3	3	5.00	.50	1.31	1.26	.39	8.47
Sprayer	(2,8)	1	100	3	3	5.00	.28	.84	.80	.20	7.11
Swather	(9)	1	100	11	12	.00	.68	1.83	1.44	.78	4.74
Combine	(10)	1	100	19	21	.00	4.35	6.16	4.85	1.37	16.73
Truck	(12)	1	100	19	21	.00	2.29	1.94	1.87	1.37	7.47
Pickup	(13)	1	100	10	11	.00	.45	2.67	1.05	.72	4.88
Auger 8	(14)	1	100	19	21	.00	.37	.44	.42	1.37	2.60
Auger 7	(15)	1	100	19	21	.00	.35	.18	.18	1.37	2.07
Buildings	(15)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					144	37.10	14.63	33.10	29.15	10.01	123.98

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 13 COST OF PRODUCTION: OATS

GROSS RETURNS:	100 bushel per acre at $1.10 per bushel			110.00
CASH COSTS:	Land taxes	4.00		
	82-0-0 50 lbs. N per acre	10.50		
	8-38-15 70 lbs. per acre	9.10		
	Seed 2½ bushel per acre	7.50		
	Blagal 720 ml per acre	5.00		
	Equipment operations and maintenance	14.62		
	Interest on operating capital	6.73		
	Hail Insurance	5.00		
	Miscellaneous Overhead	2.79		
TOTAL CASH COSTS			65.24	
RETURN OVER CASH COSTS:				44.76
	Operator Labor	10.01		
CONTRIBUTION MARGIN:				34.75
	Depreciation on buildings and equipment	33.10		
TOTAL NON-CASH COSTS			43.11	
TOTAL OF CASH AND NON-CASH COSTS:			108.35	
GROSS OPERATING PROFIT:				1.65
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	29.15		
			81.65	
TOTAL OF ECONOMIC COSTS:			190.00	

Table 14

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (OATS)

PRICE	YIELD 70	80	90	100	110	120	130
$1.80	$60.76	$78.76	$96.76	$114.76	$132.76	$150.76	$168.76
$1.70	$53.76	$70.76	$87.76	$104.76	$121.76	$138.76	$155.76
$1.60	$46.76	$62.76	$78.76	$94.76	$110.76	$126.76	$142.76
$1.50	$39.76	$54.76	$69.76	$84.76	$99.76	$114.76	$129.76
$1.40	$32.76	$46.76	$60.76	$74.76	$88.76	$102.76	$116.76
$1.30	$25.76	$38.76	$51.76	$64.76	$77.76	$90.76	$103.76
$1.20	$18.76	$30.76	$42.76	$54.76	$66.76	$78.76	$90.76
$1.10	$11.76	$22.76	$33.76	$44.76	$55.76	$66.76	$77.76
$1.00	$4.76	$14.76	$24.76	$34.76	$44.76	$54.76	$64.76
$0.90	($2.24)	$6.76	$15.76	$24.76	$33.76	$42.76	$51.76
$0.80	($9.24)	($1.24)	$6.76	$14.76	$22.76	$30.76	$38.76
$0.70	($16.24)	($9.24)	($2.24)	$4.76	$11.76	$18.76	$25.76

Table 15 OPERATIONS TABLE: CANOLA (STUBBLE)

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Chisel Plow	(1,3)	2	100	6	7	.00	1.32	6.00	5.08	.91	13.30
Disc	(1,4)	2	100	6	7	18.90	1.33	7.46	5.37	.91	33.97
Cultivator	(1,5)	2	100	6	7	4.50	1.76	5.54	4.64	.91	17.35
Drill	(2,6)	1	100	9	10	.00	2.28	3.20	3.08	.65	9.21
Harrow	(2,7)	2	100	3	4	14.50	.50	1.31	1.26	.52	18.10
QR5 Applicator	(2)	1	100	3	4	.75	.20	.36	.34	.26	1.91
Swather	(9)	1	100	11	12	11.00	.68	1.83	1.44	.78	15.74
Combine	(10)	1	100	19	21	7.50	4.35	6.16	4.85	1.37	24.23
Truck	(12)	1	100	19	21	.00	2.29	1.94	1.87	1.37	7.47
Pickup	(13)	1	100	10	11	.00	.45	2.67	1.05	.72	4.88
Auger 8	(14)	1	100	10	11	.00	.20	.23	.22	.72	1.36
Auger 7	(15)	1	100	14	16	.00	.26	.13	.13	1.04	1.56
Buildings	(16)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					131	57.15	15.60	39.09	33.66	10.14	155.65

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 16 COST OF PRODUCTION: CANOLA ON STUBBLE

GROSS RETURNS:	30 bushel per acre at $5.00 per bushel			150.00
CASH COSTS:	Land taxes	4.00		
	82-0-0 90 lbs. N per acre	18.90		
	8-38-15 70 lbs. per acre	9.10		
	0-0-0-90 10 lbs. per acre	1.90		
	Seed (treated) 5 lbs. per acre	4.50		
	QR5 11 kg. per acre	14.50		
	QR5 Applicator rental	.75		
	Equipment operations and maintenance	15.60		
	Interest on operating capital	9.27		
	Hail Insurance	7.50		
	Miscellaneous Overhead	3.84		
TOTAL CASH COSTS			89.86	
RETURN OVER CASH COSTS:				60.14
	Operator Labor	10.14		
CONTRIBUTION MARGIN:				50.00
	Depreciation on buildings and equipment	39.09		
TOTAL NON-CASH COSTS			49.23	
TOTAL OF CASH AND NON-CASH COSTS:			139.09	
GROSS OPERATING PROFIT:				10.91
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	33.66		
			86.16	
TOTAL OF ECONOMIC COSTS:			225.25	

Table 17

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (CANOLA-STUBBLE)

	YIELD						
PRICE	15	20	25	30	35	40	45
$6.50	$7.64	$40.14	$72.64	$105.14	$137.64	$170.14	$202.64
$6.25	$3.89	$35.14	$66.39	$97.64	$128.89	$160.14	$191.39
$6.00	$0.14	$30.14	$60.14	$90.14	$120.14	$150.14	$180.14
$5.75	($3.61)	$25.14	$53.89	$82.64	$111.39	$140.14	$168.89
$5.50	($7.36)	$20.14	$47.64	$75.14	$102.64	$130.14	$157.64
$5.25	($11.11)	$15.14	$41.39	$67.64	$93.89	$120.14	$146.39
$5.00	($14.86)	$10.14	$35.14	$60.14	$85.14	$110.14	$135.14
$4.75	($18.61)	$5.14	$28.89	$52.64	$76.39	$100.14	$123.89
$4.50	($22.36)	$0.14	$22.64	$45.14	$67.64	$90.14	$112.64
$4.25	($26.11)	($4.86)	$16.39	$37.64	$58.89	$80.14	$101.39
$4.00	($29.86)	($9.86)	$10.14	$30.14	$50.14	$70.14	$90.14
$3.75	($33.61)	($14.86)	$3.89	$22.64	$41.39	$60.14	$78.89

Table 18 OPERATIONS TABLE: BARLEY UNDERSEEDED TO CLOVER

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Chisel Plow	(1,3)	1	100	6	7	.00	.66	3.00	2.54	.46	6.65
Disc	(1,4)	1	100	6	7	12.60	.66	3.73	2.69	.46	20.13
Cultivator	(1,5)	2	100	6	7	4.88	1.76	5.54	4.64	.91	17.73
Drill	(2,6)	1	100	9	10	9.10	2.28	3.20	3.08	.65	18.31
Harrow	(2,7)	2	100	3	4	11.00	.50	1.31	1.26	.52	14.60
Sprayer	(2,8)	2	100	3	4	6.00	.55	1.67	1.61	.52	10.35
Swather	(9)	1	100	11	12	10.50	.68	1.83	1.44	.78	15.74
Combine	(10)	1	100	19	21	1.00	4.35	6.16	4.85	1.37	17.73
Dryer	(2,11)	.5	100	19	21	5.00	2.41	2.09	2.22	.68	12.41
Truck	(12)	1	100	19	21	.00	1.21	1.02	.98	.72	3.93
Pickup	(13)	1	100	19	21	.00	.85	5.07	2.00	1.37	9.28
Auger 8	(14)	1	100	9	10	.00	.18	.21	.20	.65	1.23
Auger 7	(15)	1	100	14	16	.00	.26	.13	.13	1.04	1.56
Buildings	(16)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					161	60.08	16.35	37.22	31.97	10.11	156.23

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 19 COST OF PRODUCTION: BARLEY (UNDERSEEDED TO CLOVER)

GROSS RETURNS:	50 bushel per acre at $1.10 per bushel			55.00
CASH COSTS:	Land taxes	4.00		
	82-0-0 60 lbs. N per acre	12.60		
	8-38-15 70 lbs. per acre	9.10		
	Seed 1½ bushel per acre	4.88		
	Clover Seed 6 lbs.	6.00		
	Inoculant	1.00		
	Avadex 1.4 L per acre	10.50		
	Tropotox 1.6 L per acre	11.00		
	Equipment operations and maintenance	16.35		
	Interest on operating capital	9.71		
	Hail Insurance	5.00		
	Miscellaneous Overhead	4.02		
TOTAL CASH COSTS			94.16	
RETURN OVER CASH COSTS:				-(39.16)
	Operator Labor	10.14		
CONTRIBUTION MARGIN:				-(49.27)
	Depreciation on buildings and equipment	37.22		
TOTAL NON-CASH COSTS			47.33	
TOTAL OF CASH AND NON-CASH COSTS:			141.49	
GROSS OPERATING PROFIT:				-(86.49)
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	31.97		
			84.47	
TOTAL OF ECONOMIC COSTS:			225.96	

Table 20

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (BARLEY U/S

PRICE	YIELD 20	30	40	50	60	70	80
$3.50	($24.16)	$10.84	$45.84	$80.84	$115.84	$150.84	$185.84
$3.25	($29.16)	$3.34	$35.84	$68.34	$100.84	$133.34	$165.84
$3.00	($34.16)	($4.16)	$25.84	$55.84	$85.84	$115.84	$145.84
$2.75	($39.16)	($11.66)	$15.84	$43.34	$70.84	$98.34	$125.84
$2.50	($44.16)	($19.16)	$5.84	$30.84	$55.84	$80.84	$105.84
$2.25	($49.16)	($26.66)	($4.16)	$18.34	$40.84	$63.34	$85.84
$2.00	($54.16)	($34.16)	($14.16)	$5.84	$25.84	$45.84	$65.84
$1.75	($59.16)	($41.66)	($24.16)	($6.66)	$10.84	$28.34	$45.84
$1.50	($64.16)	($49.16)	($34.16)	($19.16)	($4.16)	$10.84	$25.84
$1.25	($69.16)	($56.66)	($44.16)	($31.66)	($19.16)	($6.66)	$5.84
$1.00	($74.16)	($64.16)	($54.16)	($44.16)	($34.16)	($24.16)	($14.16)
$0.75	($79.16)	($71.66)	($64.16)	($56.66)	($49.16)	($41.66)	($34.16)

Table 21 OPERATIONS TABLE: CLOVER

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Swather	(9)	1	100	14	16	.00	.87	2.33	1.84	1.04	6.08
Combine	(10)	1	100	19	21	.00	4.35	6.16	4.85	1.37	16.73
Truck	(12)	1	100	10	11	.00	1.21	1.02	.98	.72	3.93
Pickup	(13)	1	100	10	11	.00	.45	2.67	1.05	.72	4.88
Auger 7	(15)	1	100	14	16	.00	.26	.13	.13	.98	1.50
Buildings	(16)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					74	.00	7.13	14.57	13.19	4.81	39.69

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 22 COST OF PRODUCTION: RED CLOVER

GROSS RETURNS:	250 lbs. clover seed per acre at $.40 per pound			100.00
CASH COSTS:	Land taxes	4.00		
	Equipment operations and maintenance	7.13		
	Interest on operating capital	1.34		
	Miscellaneous Overhead	.56		
TOTAL CASH COSTS			13.03	
RETURN OVER CASH COSTS:				86.97
	Operator Labor	4.81		
CONTRIBUTION MARGIN:				82.16
	Depreciation on buildings and equipment	14.57		
TOTAL NON-CASH COSTS			19.38	
TOTAL OF CASH AND NON-CASH COSTS:			32.41	
GROSS OPERATING PROFIT:				67.59
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	13.19		
			65.69	
TOTAL OF ECONOMIC COSTS:			98.10	

Table 23

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (CLOVER)

	YIELD						
PRICE	100	150	200	250	300	350	400
$0.65	$51.97	$84.47	$116.97	$149.47	$181.97	$214.47	$246.97
$0.60	$46.97	$76.97	$106.97	$136.97	$166.97	$196.97	$226.97
$0.55	$41.97	$69.47	$96.97	$124.47	$151.97	$179.47	$206.97
$0.50	$36.97	$61.97	$86.97	$111.97	$136.97	$161.97	$186.97
$0.45	$31.97	$54.47	$76.97	$99.47	$121.97	$144.47	$166.97
$0.40	$26.97	$46.97	$66.97	$86.97	$106.97	$126.97	$146.97
$0.35	$21.97	$39.47	$56.97	$74.47	$91.97	$109.47	$126.97
$0.30	$16.97	$31.97	$46.97	$61.97	$76.97	$91.97	$106.97
$0.25	$11.97	$24.47	$36.97	$49.47	$61.97	$74.47	$86.97
$0.20	$6.97	$16.97	$26.97	$36.97	$46.97	$56.97	$66.97
$0.15	$1.97	$9.47	$16.97	$24.47	$31.97	$39.47	$46.97
$0.10	($3.03)	$1.97	$6.97	$11.97	$16.97	$21.97	$26.97

Table 24 OPERATIONS TABLE: CLOVER PLOWDOWN

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Custom Plow	(0)		100			7.00	.00	.00	.00	.00	7.00
Disc	(1,4)	2	100	6	7	.00	1.33	7.46	5.37	.91	15.05
Cultivator	(1,5)	2	100	6	7	.00	1.76	5.54	4.64	.91	12.85
Buildings	(16)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					14	7.00	3.09	15.25	14.34	1.82	41.50

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 25 COST OF PRODUCTION: CLOVER PLOWDOWN

GROSS RETURNS:			
CASH COSTS: Land taxes	4.00		
Custom Plowing	7.00		
Equipment operations and maintenance	3.09		
Interest on operating capital	1.70		
Miscellaneous Overhead	.70		
TOTAL CASH COSTS		16.49	
RETURN OVER CASH COSTS:			-(16.49)
Operator Labor	1.82		
CONTRIBUTION MARGIN:			-(18.31)
Depreciation on buildings and equipment	15.25		
TOTAL NON-CASH COSTS		17.07	
TOTAL OF CASH AND NON-CASH COSTS:		33.56	
GROSS OPERATING PROFIT:			-(33.56)
INTEREST: Land ($500.00 per acre at 10.5%)	52.50		
Buildings and equipment	14.34		
		66.84	
TOTAL OF ECONOMIC COSTS:		100.40	

Table 26 OPERATIONS TABLE: CANOLA ON FALLOW

				HOURS PER OPERATION		COSTS PER ACRE					
MACHINE		TIMES DONE	ACRES DONE	MACHINE	LABOUR	SEED CHEM. FERT.	OPERATING	DEPREC.	INTEREST	LABOR	TOTAL COSTS
Disc	(0)	0	100			10.50					10.50
Cultivator	(1,5)	2	100	6	7	4.50	1.76	5.54	4.64	.91	17.35
Hoe Drill	(2,6)	1	100	9	10	11.00	2.28	3.20	3.08	.65	20.21
Harrow	(2,7)	1	100	3	4	11.00	.25	.66	.63	.26	12.80
Sprayer	(2,8)	1	100	3	4	7.50	.28	.84	.80	.26	9.68
Swather	(9)	1	100	11	12	.00	.68	1.83	1.44	.78	4.74
Combine	(10)	1	100	19	21	.00	4.35	6.16	4.85	1.37	16.73
Truck	(12)	1	100	19	21	.00	2.29	1.94	1.87	1.37	7.47
Pickup	(13)	1	100	10	11	.00	.45	2.67	1.05	.72	4.88
Auger 8	(14)	1	100	10	11	.00	.20	.23	.22	.72	1.36
Auger 7	(15)	1	100	14	16	.00	.26	.13	.13	1.04	1.56
Buildings	(16)	1	1	1	0	.00	.00	2.25	4.33	.00	6.58
TOTAL COSTS					117	44.50	12.78	25.45	23.05	8.06	113.85

The numbers in parenthesis refer to the machine numbers listed in the Machinery Complement Set and are the machines used for this operation.

Table 27 COST OF PRODUCTION: CANOLA ON FALLOW

GROSS RETURNS:	30 bushel per acre at $5.00 per bushel			150.00
CASH COSTS:	Land taxes	4.00		
	82-0-0 50 lbs. N per acre	10.50		
	8-38-15 70 lbs. per acre	9.10		
	0-0-0-90 10 lbs. per acre	1.90		
	Seed (treated) 5 lbs. per acre	4.50		
	Treflan 1 L per acre	11.00		
	Equipment operations and maintenance	12.78		
	Interest on operating capital	7.40		
	Hail Insurance	7.50		
	Miscellaneous Overhead	3.06		
TOTAL CASH COSTS			71.75	
RETURN OVER CASH COSTS:				78.25
	Operator Labor	8.06		
CONTRIBUTION MARGIN:				70.19
	Depreciation on buildings and equipment	25.45		
TOTAL NON-CASH COSTS			33.51	
TOTAL OF CASH AND NON-CASH COSTS:			105.26	
GROSS OPERATING PROFIT:				44.74
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	23.05		
			75.55	
TOTAL OF ECONOMIC COSTS:			180.81	

Table 28

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (CANOLA-FALLOW)

PRICE	YIELD 15	20	25	30	35	40	45
$6.50	$25.75	$58.25	$90.75	$123.25	$155.75	$188.25	$220.75
$6.25	$22.00	$53.25	$84.50	$115.75	$147.00	$178.25	$209.50
$6.00	$18.25	$48.25	$78.25	$108.25	$138.25	$168.25	$198.25
$5.75	$14.50	$43.25	$72.00	$100.75	$129.50	$158.25	$187.00
$5.50	$10.75	$38.25	$65.75	$93.25	$120.75	$148.25	$175.75
$5.25	$7.00	$33.25	$59.50	$85.75	$112.00	$138.25	$164.50
$5.00	$3.25	$28.25	$53.25	$78.25	$103.25	$128.25	$153.25
$4.75	($0.50)	$23.25	$47.00	$70.75	$94.50	$118.25	$142.00
$4.50	($4.25)	$18.25	$40.75	$63.25	$85.75	$108.25	$130.75
$4.25	($8.00)	$13.25	$34.50	$55.75	$77.00	$98.25	$119.50
$4.00	($11.75)	$8.25	$28.25	$48.25	$68.25	$88.25	$108.25
$3.75	($15.50)	$3.25	$22.00	$40.75	$59.50	$78.25	$97.00

OBSERVATIONS:

1. When considering profitability of individual crops some benefits and/or establishment costs could be brought into the cost of the crop receiving the benefit. Perhaps plowdown costs could be allocated to succeeding crops on a benefit basis. Agronomists estimate that 60% of the benefit of plowdown is received by the following crop and 1/2 of the residual benefit by each succeeding crop. (i.e. 60%; 20%; 10%; 5%; etc.)

If we charge 60% of plowdown costs to canola, return over cash costs becomes $81.24 instead of $91.13, and gross operating profit becomes $37.48 instead of $57.62.

If we charge 20% of plowdown costs to wheat, return over cash costs becomes $11.49 instead of $14.79 and gross operating profit becomes $-(34.00) instead of $-(27.29).

If we charge 10% of plowdown costs to peas, return over cash costs becomes 76.83 instead of 78.48 and gross operating profit becomes 13.69 instead of 17.05.

2. Similarly a portion of the barley underseeding costs and/or reduced yields should be charged against the succeeding clover seed crop. Perhaps a fair charge might be the difference in gross operating profit between the regular barley crop and the underseeded crop or $33.16/acre.

In this scenario, gross operating profit for the clover crop becomes $34.43/acre instead of $67.59/acre.

ERRATA NOTE

C.R.D. NO 273

A CONCENSUS OF COSTS AND RETURNS
Wheat, Field Peas, Barley, Oats, Canola (Stubble), Barley (Underseeded), Clover, Plowdown, and Canola on Fallow

1000 Acre Farm
Morinville, Stony Plain and Barrhead Districts

Table 7, page 11: should read

Table 7 COST OF PRODUCTION: FIELD PEAS

GROSS RETURNS:	50 bushel per acre at $3.75 per bushel			187.50
CASH COSTS:	Land taxes	4.00		
	8-38-15 70 lbs. per acre	9.10		
	0-0-0-90 10 lbs. per acre	1.90		
	Seed 200 lbs. per acre	30.00		
	Edge 1 kg.per acre	13.00		
	MCPA 280 ml per acre	1.00		
	Inoculation and sticker	2.00		
	Equipment operations and maintenance	24.62		
	Interest on operating capital	11.24		
	Hail Insurance	7.50		
	Miscellaneous Overhead	4.66		
TOTAL CASH COSTS			109.02	
RETURN OVER CASH COSTS:				78.48
	Operator Labor	13.65		
CONTRIBUTION MARGIN:				64.83
	Depreciation on buildings and equipment	47.78		
TOTAL NON-CASH COSTS			61.43	
TOTAL OF CASH AND NON-CASH COSTS:			170.45	
GROSS OPERATING PROFIT:				17.05
INTEREST:	Land ($500.00 per acre at 10.5%)	52.50		
	Buildings and equipment	41.69		
			94.19	
TOTAL OF ECONOMIC COSTS:			264.64	

Table 14, page 18: should read

RETURN OVER CASH COSTS AT VARIOUS YIELDS AND PRICES (OATS)

	YIELD						
PRICE	70	80	90	100	110	120	130
$1.80	$60.76	$78.76	$96.76	$114.76	$132.76	$150.76	$168.76
$1.70	$53.76	$70.76	$87.76	$104.76	$121.76	$138.76	$155.76
$1.60	$46.76	$62.76	$78.76	$94.76	$110.76	$126.76	$142.76
$1.50	$39.76	$54.76	$69.76	$84.76	$99.76	$114.76	$129.76
$1.40	$32.76	$46.76	$60.76	$74.76	$88.76	$102.76	$116.76
$1.30	$25.76	$38.76	$51.76	$64.76	$77.76	$90.76	$103.76
$1.20	$18.76	$30.76	$42.76	$54.76	$66.76	$78.76	$90.76
$1.10	$11.76	$22.76	$33.76	$44.76	$55.76	$66.76	$77.76
$1.00	$4.76	$14.76	$24.76	$34.76	$44.76	$54.76	$64.76
$0.90	($2.24)	$6.76	$15.76	$24.76	$33.76	$42.76	$51.76
$0.80	($9.24)	($1.24)	$6.76	$14.76	$22.76	$30.76	$38.76
$0.70	($16.24)	($9.24)	($2.24)	$4.76	$11.76	$18.76	$25.76

Table 16, page 20, "Canola on Stubble"

Yield on Canola should be 30 bushels per acre rather than 25. The remainder of the table is correct.

N.L.C. - B.N.C.
3 3286 09966128 8